

Application No. 09/883,705  
Amdt. dated Feb. 23, 2004  
Reply to FINAL Office action of Oct. 22, 2003

### REMARKS / ARGUMENTS

Applicants' claimed invention is a novel fire fighting composition and method of using the same. The invention provides an accurate means or method for measuring the mix ratio of a fire fighting foam concentrate or agent mixed with a diluent; for example, after the fire fighting foam composition has been foamed.

Prior to this amendment, claims 1-28 were pending in the application. Claims 24-28 were added in Applicant's previous amendment, filed on July 11, 2003. Claims 24-26 have been withdrawn from consideration due to a restriction requirement and constructive election of Group I by the Examiner, and have been canceled without prejudice.

However, while the Office Action Summary indicates that claims 27 and 28 (which depend from claim 1) have also been withdrawn from consideration, no rationale has been provided. It appears that these claims were inadvertently included in Group II. Therefore, Applicant respectfully traverses the restriction requirement as to claims 27 and 28, and requests reinstatement of claim 27. The limitations of claim 28, now canceled, have been incorporated into independent claim 1.

In response to Applicant's previous assertion that the invention is particularly useful when the diluent is water with a high level of electrolyte (such as sea water) or dissolved solid content, the Examiner maintains that such features are absent from the claims of record.

On the contrary, Applicant respectfully calls to the Examiner's attention that claims 27 and 28, which were submitted with the previous Amendment filed on July 11, 2003, respectively recited a diluent comprising sea water (claim 27) and a diluent having a high level, relative to pure water, of at least one of an electrolyte or dissolved solid content (claim 28).

Nonetheless, the purpose of presenting these examples was to illustrate some of the hostile environments in which known methods typically do not function effectively

Application No. 09/883,705

Amtd. dated Feb. 23, 2004

Reply to FINAL Office action of Oct. 22, 2003

but where the claimed invention can be successfully used. They were meant to show the benefits of the invention, but are not the only means for implementing the invention.

Notwithstanding the above discussion, independent claim 1 has been amended to recite a fire fighting composition, including the limitations of claim 28, now canceled. That is, claim 1 now recites that the diluent has at least a high level of electrolyte or dissolved solid content relative to pure water.

Claim 1 has also been amended to emphasize that the spectral property not only is substantially proportional to the concentration of the agent in the composition, but is *indicative of* the concentration of the agent in the composition. See the Specification as filed, for example, at page 12, lines 13-17.

None of the references cited, alone or in combination, teach a fire fighting composition comprising: a fire fighting foam concentrate comprising, foamable fire fighting agent, and water-soluble dye; and *diluent having a high level of electrolyte or dissolved solid content relative to pure water*; where 3) *a spectral property of the composition is substantially proportional to, and indicative of, the concentration of the agent in the composition*, as recited in claim 1 as amended herein. No new matter has been added. Claim 1 as amended should therefore be allowable, and Applicant respectfully requests reconsideration of claim 1 as amended in favor of allowance.

References to glycol ether have been deleted from independent claims 1, 12, 13 and 22.

Dependent claims 2-7, 18, 19 and 27 have been amended to conform to amended base claim 1. No new matter has been added. Allowance of claims 2-7, 18 and 19 and 27 follows from allowance of base claim 1.

The Examiner asserts that Malinin teaches methods for evaluating a fire fighting composition that anticipates, among others, method claims 12-17 and 21-23. (Office Action, section 9, page 5) However, Malinin teaches only transparency as an indicator that the weight ratio of foaming agent to halo-hydrocarbon is above 1.6. This is a "binary" indication in that either the indicator is transparent or it is not. Such an indication is not *substantially proportional* to the concentration of agent within a

Application No. 09/883,705  
Amdt. dated Feb. 23, 2004  
Reply to FINAL Office action of Oct. 22, 2003

composition, and cannot be used to determine a proper or desired mix ratio. For example, it does not appear that transparency in Malinin can indicate to what extent the weight ratio exceeds 1.6.

Biller teaches use of a food color but does not teach methods of evaluating concentration by evaluating a spectral property that is substantially proportional to the concentration.

In summary, neither Malinin nor Biller, nor any of the other cited references, separately or in combination, teaches evaluation of a spectral property that is *substantially proportional* to the concentration of fire fighting agent in the resultant mixture. Applicant's invention, on the other hand, as recited in amended independent claims 12, 13, 16, 21 and 22, evaluates a *substantially proportional* spectral property to determine whether a desired mix ratio has been achieved (claim 12) or to determine the actual concentration of foamable fire fighting concentrate in the resultant mixture (claim 13).

The Examiner further asserts that claims 12, 13, 21 and 22 lack teachings to any relative proportion for any of the components and thus the spectral property would be inherently present in the concentration.

While Applicant does not concede as to the inherency of the substantially proportional spectral property, insofar as method claims 12, 13, 21 and 22 are concerned, the novelty and unobviousness of each of the claimed methods lies in the use, *i.e.*, evaluation or comparison against a standard, of this substantially proportional spectral property as an indication of agent concentration to determine whether a proper (or desired) mix exists, or to determine the actual concentrations.

Independent claim 12 has been amended to more clearly define the steps of a method for fighting a fire according to Applicant's invention. No new matter has been introduced.

The preambles of independent claims 13, 16, 21 and 22 have been amended to clarify that the invention is a method for evaluating the *mix ratio* of a diluted fire fighting

Application No. 09/883,705  
Amdt. dated Feb. 23, 2004  
Reply to FINAL Office action of Oct. 22, 2003

foam or composition. This is discussed throughout the specification as filed. No new matter has been introduced.

None of the references cited, separately or in combination, teach a method of evaluating a spectral property of a diluted foamable fire fighting agent to indicate when a desired mix ratio has been achieved, where the spectral property is *substantially proportional to the concentration of foamable fire fighting agent* in the diluted mixture, as recited in claim 12 as amended. Claim 12 should therefore be allowable.

Applicant thus respectfully requests reconsideration of claim 12 as amended in favor of allowance.

Independent claims 13, 21 and 22 have been amended similarly, and should be allowable for the same reasons as claim 12. Note that Claim 13 has been amended to include the limitations of claim 14, now canceled. Allowance of claim 15, which depends from claim 13, and claim 23, which depends from claim 22, should follow.

Regarding claim 23, which depends from claim 22, no basis for rejection has been given. Applicant respectfully asserts that none of the cited references, alone or in combination teaches determining the concentration of fire fighting foam concentrate in the fire fighting composition, as recited in claim 23. Claim 23 therefore should be allowable regardless of the final disposition of base claim 22. Allowance of claim 23 is therefore respectfully requested.

New claim 29 mirrors the language of claim 23, but depends from independent method claim 12. Like claim 23, claim 29 should be allowable regardless of the final disposition of base claim 12. Allowance of claim 29 is therefore respectfully requested.

Claims 8-11, 14, 20, 24-26 and 28 have been canceled.

Application No. 09/883,705  
Amdt. dated Feb. 23, 2004  
Reply to FINAL Office action of Oct. 22, 2003

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned at (978) 731-7244.

Respectfully submitted,

By Gerald M. Bluhm  
Gerald M. Bluhm  
Registration No. 44,035  
Telephone: (978) 731-7244  
Facsimile: (978) 246-6336  
Tyco Fire & Security  
91 Technology Drive  
Westminster, MA 01441-0001

Dated: February 23, 2004